plane 31, produces a three dimensional (3-D) image formed by diffracted light 32. The image may be viewed directly or projected onto a large screen by a projection system. the use of three lasers, one for each color component, allows formation in the same way of a 3-D color image. As a holographic image restoring light may be also used that produced by mercury vapor lamp.

IN THE CLAIMS:

Please amend the claims pursuant to 37 C.F.R. §1.121 as follows (see the accompanying "marked up" version pursuant to §1.121):

48. (Amended) An image display system comprising:

(a) at least one complimentary screen of one of light emitting or light source modulating devices in a two dimensional array of N (a real number) pixels, from which raster elements comprising one or pixels are sequentially generated;

(b) a raster multiplying system comprising a plurality of light dividing elements, each said light dividing element to deflect a proportional part of a raster element of the complimentary screen as a light beam and transmit the rest of said beam to another light dividing element to simultaneously form copies of the generated raster elements, with said copies of said raster elements to be used in forming P blocks, each block comprising a two dimensional array of pixels;

(c) an array of controllable modulators to simultaneously and

independently modulate each of the raster elements for each of said P blocks, each said modulator having an output to coincide with a block of the image; and

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(d) a surface on which an image with a resolution of M pixels is formed and displayed, comprised of said P blocks, where the number M exceeds the number N and where said components of (a), (b), (c), (d) are placed in the mentioned order of the light path of the complimentary screen.

49. (Not Amended) A system as in claim 48, comprising a plurality of modulators for each of said P blocks.

50. (Not Amended) A system as in claim 48, comprising a plurality of said complimentary screens.

Cancel claim 51 without prejudice and substitute therefor:

Sub K1

69. A 3D holographic image display system comprising:

(a) at least one complimentary screen of one of light emitting or light source modulating devices in a two array of N (a real number) pixels, from which raster elements comprising one or more pixels are sequentially generated;

I4

(b) a raster multiplying system comprising a plurality of passive and at least partly light transmitting elements to simultaneously form copies of said generated raster elements of a complimentary screen, with said raster element copies

forming P blocks with each block comprising a two dimensional array of pixels;

(c) an array of controllable modulators to simultaneously and independently modulate each of the raster elements for each of said P blocks, each modulator having an output to coincide with a block of the image;

(d) a surface on which a hologram comprised of said P blocks with a resolution of M pixels is formed, where the number M exceeds number N and where said components of (a), (b), (c) and (d) are placed in the mentioned order of the light path of the complimentary screen; and

(e) a holograph generator for producing a 3D holographic image from said hologram.

52. (Amended) A system as in claim 48 wherein a lens raster matrix forms said raster multiplying system.

Cancel claim 53 without prejudice.

Cancel claim 54 without prejudice and substitute therefor:

71. A system as in claim 48 used for image recording further comprising:

(e) a photosensitive plane on which an outer image to be recorded is produced, said image presented comprising a plurality of said blocks, each block being of a two dimensional array of pixels, and all said blocks comprising M pixels, where

number M exceeds number N, and where said system components of (a), (b) and (c) are placed in the mentioned order of the light path of the complimentary screen; and

(f) means to scan said plane information into electric signals for recording.

72. A system as in claim 71 wherein a lens raster matrix forms said raster multiplying system.

55. (Amended) A system as in claim 71 further comprising a plurality of said complimentary screens.

56. (Amended) A system as in claim 71 further comprising means for optic compression of generated raster elements for increasing the dot per inch resolution of a scanning light beam.

57. (Amended) A method for forming an image on an image display surface by forming of P constituent blocks of said image, so that the image is presented as comprised of a plurality of blocks, a block having a two dimensional array of pixels, comprising the steps of:

(a) providing at least one complimentary screen having a two dimensional array of N pixels from which raster elements of one or more pixels are

sequentially generated with one or more of said raster elements to comprise a block of an image;

(b) using a raster multiplying system comprising a plurality of light dividing elements for partly transmitting and partly deflecting incoming light, each said light dividing element to separate a raster element corresponding one beam into a plurality of beam components to simultaneously form copies of each said generated raster element with said copies of said raster elements forming P blocks, each block comprising a two dimensional array of pixels;

(c) transmitting the formed beam components to an array of controllable modulators to independently modulate the beam component corresponding to each raster element copy in accordance with control signals applied for each of said P blocks; and

I7 CONT.

(d) repeating the procedure successively generating other raster elements from said complimentary screen using the same light dividing elements to simultaneously form a modulated raster in each of P blocks; and

(e) displaying said P blocks on an image display plane in the form of an image, said image having a resolution of M pixels, where M is greater than N.

58. (Not Amended) A method as in claim 57 further comprising the step of using a plurality of complimentary screens.

59. (Amended) A method as in claim 57 wherein a raster element comprises more than one pixel.

I8 60. (Amended) A method as in claim 59, further comprising the step of subjecting a generated raster element to additional optical compression for increasing dot per inch resolution of a sensitive plane scanning beam.

61. (Amended) A method as in claim 57 wherein a raster element is of the size of only one pixel.

Cancel claim 62 without prejudice and substitute therefor:

70. A method for forming a hologram generated as a 3D holographic image by simultaneous forming of P constituent blocks of said hologram on an image display surface, so that the hologram is presented as comprised of a plurality of P blocks, a block having a two dimensional array of pixels, comprising the steps of:

(a) providing a complimentary screen having a two dimensional array I9 of N pixels from which a plurality of raster elements of one or more pixels are generated with one or more of said generated raster elements to form a block of a hologram;

(b) using a raster multiplying system comprising an array of at least partly light transmitting elements to separate a raster element corresponding one beam

into a plurality of beam components to simultaneously form a plurality of copies of a said generated raster element, with said generated copies of said raster element forming P blocks each block comprising a two dimensional array of pixels;

(c) transmitting the formed beam components to an array of controllable modulators, to independently modulate the beam component corresponding to each raster element copy in accordance with control signals applied for each of said P blocks;

I9 cont.

(d) repeating the procedure successively generating other raster elements from said complimentary screen, to simultaneously form a modulated raster in each of said P blocks;

(e) placing said P blocks on an image display surface in the form of a hologram, said hologram having a resolution of M pixels, where M is greater than N; and

(f) generating a 3D holographic image from said hologram.

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63. (Amended) A method as in claim 57 comprising the use of lens raster matrix instead of said plurality of light dividing elements.

Cancel claim 64 without prejudice.

I11

65. (Amended) A method for image forming as in claim 70 used for

producing a hard copy of an electrically formed holographic image, further comprising the step of:

I11 cont.

generating a holographic image;

projecting the formed image on a photosensitive material;

forming a hologram on a photosensitive material; and

developing the photosensitive material.

Cancel claim 66 without prejudice and substitute therefor:

Sub L23

73. A method as in claim 57 used for image recording further comprising that the step of point (b) is followed by:

(f) converting the image information received on said plane by the projection of said beam components into P electric signals, one signal for one of said P blocks, for recording received information for P separate image elements; and

I12

(g) repeating the procedure by successively generating other raster elements on said complimentary screen, to simultaneously scan each of P blocks.

74. A method as in claim 73 comprising the use of lens raster matrix as said raster multiplying system.

67. (Amended) A method as in claim 73 wherein a raster element comprises a plurality of pixels.

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